

WHAT IS CLAIMED IS:

1 1. A method for creating an electronic document description of a
2 computing environment installed on first computing hardware, the method comprises
3 identifying at least one software component of the computing environment;
4 and
5 automatically generating an electronic document containing an identification
6 of each of the at least one software component, the electronic document comprising
7 instructions for automatically reconstructing the computing environment on first computing
8 hardware or on other computing hardware.

1 2. The method of claim 1, wherein the first computing hardware
2 comprises a plurality of computers connected by a network.

1 3. The method of claim 1, wherein a reconstruction of the computing
2 environment from the electronic document installed on other computing hardware is
3 behaviorally equivalent to the computing environment installed on the first computing
4 hardware.

1 4. The method of claim 1, wherein the at least one software component
2 comprises an operating system and an application.

1 5. The method of claim 4, further comprising
2 identifying at least one data file to be used by the application; and
3 including in the electronic document a representation of each of the at least
4 one data file.

1 6. The method of claim 1 wherein the step of identifying at least one
2 software component comprises identifying all software components installed on the first
3 computing hardware.

1 7. The method of claim 6, wherein the first computing hardware
2 comprises a plurality of computers connected by a network.

1 8. The method of claim 1, further comprising
2 identifying a requirement for computing hardware on which the computing
3 environment may be installed; and

including in the electronic document a constraint corresponding to the requirement.

9. The method of claim 1, wherein the step of automatically generating the electronic document comprises:

identifying at least one parameter of the computing environment for abstraction; and
abstracting the at least one parameter.

10. The method of claim 1, further comprising the step of storing the electronic document.

11. The method of claim 10, further comprising the step of compressing the electronic document.

12. The method of claim 10, further comprising the step of encrypting the electronic document.

13. The method of claim 10, further comprising the step of transmitting the electronic document to a remote location.

14. The method of claim 10, further comprising the step of replicating the stored electronic document.

15. A method for installing a computing environment on target computing hardware based on an electronic document description of the computing environment, the method comprising

obtaining an electronic document that contains a description of a computing environment to be installed;

reading the electronic document;

identifying candidate computing hardware for installation of the computing environment;

selecting target computing hardware from the candidate computing hardware for installation of the computing environment; and

installing at least one software component on the target computing hardware in accordance with data contained in the electronic document.

1 16. The method of claim 15, wherein the electronic document was
2 previously abstracted from a computing environment installed on original computing
3 hardware and wherein the computing environment installed on the target computing hardware
4 is behaviorally equivalent to the computing environment installed on the original computing
5 hardware.

1 17. The method of claim 15, wherein the step of obtaining an electronic
2 document comprises the step of receiving an electronic document from a remote location.

1 18. The method of claim 15, wherein the step of obtaining an electronic
2 document further includes

3 receiving an instruction from a remote user location to retrieve a user-
4 specified electronic document from a storage location; and
5 retrieving the user-specified electronic document from the storage location.

1 19. The method of claim 15, further comprising the step of installing at
2 least one data file on the target computing hardware in accordance with data contained in the
3 electronic document.

1 20. The method of claim 15, wherein the step of selecting the target
2 computing hardware comprises

3 reading a set of hardware constraints from the electronic document;
4 identifying as acceptable computing hardware each of the candidate
5 computing hardware that satisfies the set of hardware constraints; and
6 selecting the target computing hardware from the acceptable computing
7 hardware as the target computing hardware.

1 21. The method of claim 15, further comprising
2 determining from the electronic document whether the computing
3 environment includes a parameter; and
4 if the computing environment includes a parameter then performing the
5 following:

6 selecting a value for the parameter; and
7 providing an instantiated electronic document incorporating the value
8 selected for the parameter.

1 22. The method of claim 15, wherein the step of installing at least one
2 software component includes
3 determining whether an owner of the target computing hardware has rights to
4 use the at least one software component;
5 installing the at least one software component when the owner of the target
6 computing hardware has rights to use the at least one software component; and
7 when the owner of the target computing hardware does not have rights to use
8 the at least one software component, performing the following:
9 determining whether a provider of the electronic document has rights
10 to use the at least one software component;
11 retrieving executable code for the at least one software component
12 from a source when the provider of the electronic document has rights to use the at least one
13 software component; and
14 installing the at least one software component on the target computer
15 hardware when the provider of the electronic document has rights to use the at least one
16 software component.

1 23. A system for creating an electronic document description of a
2 computing environment comprising:
3 first computing hardware whereon the computing environment is installed;
4 and
5 a processor in communication with the first computing hardware, wherein the
6 processor is configured to identify a software component installed on the first computing
7 hardware and to generate an electronic document that includes identification of the software
8 component.

1 24. The system of claim 23 wherein the processor is a component of the
2 first computing hardware.

1 25. The system of claim 23 wherein the processor communicates with the
2 first computing hardware via a network.

1 26. A system for installing a computing environment on target computing
2 hardware in accordance with an electronic document description, the system comprising:

3 a storage medium for storing one or more electronic documents, each of said
4 one or more electronic documents containing a description of a computing environment;
5 a server connected to the storage medium for reading electronic documents
6 and issuing instructions to install computing environments in accordance with the electronic
7 documents;
8 candidate computing hardware whereon a computing environment may be
9 installed, the target computing hardware being selected from the candidate computing
10 hardware; and
11 a communication path between the server and the candidate computing
12 hardware.

1 27. The system of claim 26 wherein the communication path comprises a
2 network.

1 28. The system of claim 27 wherein the candidate computing hardware
2 comprises a plurality of computer systems.

1 29. The system of claim 28 wherein the server is configured to select as
2 the target computing hardware a subset of the plurality of computer systems.

1 30. The system of claim 29, wherein the server communicates with a
2 remote user terminal via the Internet.

1 31. The system of claim 30, wherein the target computing hardware
2 communicates with the remote user terminal via the Internet.

1 32. The system of claim 30 wherein the server is configured to receive
2 from the remote user terminal an instruction to retrieve a user-selected electronic document
3 from the storage medium and to install a computing environment on target computing
4 hardware in accordance with the user-selected electronic document.

1 33. The system of claim 30 wherein the server is configured to retrieve an
2 electronic document from the storage medium and to provide the retrieved electronic
3 document to the remote user terminal.

1 34. The system of claim 30 wherein the server is configured to receive an
2 electronic document description of a computing environment from the remote user terminal
3 and to store the received electronic document in the storage medium.

1 35. A computer-readable medium including instructions for creating a
2 computing environment, the computer-readable medium including
3 one or more instructions for identifying at least one software component of the
4 computing environment;
5 one or more instructions for associating a constraint on the use of the software
6 component.

1 36. The computer-readable medium of claim 365, wherein the at least one
2 software component includes an operating system.

1 37. The computer-readable medium of claim 365, wherein the constraint
2 includes an indication of a hardware architecture under which the software component can
3 execute.

1 38. A computer data signal embodied in a carrier wave comprising
2 one or more instructions for identifying at least one software component of the
3 computing environment;
4 one or more instructions for associating a constraint on the use of the software
5 component.

1 39. The computer data signal of claim 368, wherein the at least one
2 software component includes an operating system.

1 40. The computer data signal of claim 368, wherein the constraint includes
2 an indication of a hardware architecture under which the software component can execute.